

SM

FILE 'REGISTRY' ENTERED AT 10:11:42 ON 11 SEP 2007

L3 0 S QAKHKQRKRLKSSCKRHPLYVDFSDVGWNDWIVAPPGYHAFYCHGECPFPLADHLNSTNHA
L4 1 S MVAGTRCLLALLLPQVLLGGAAGLVPELGRRKFAAASSGRPSSQPSDEVLSEFELRLLSMF

FILE 'CAPLUS' ENTERED AT 10:14:21 ON 11 SEP 2007

L5 1 S L4

FILE 'REGISTRY' ENTERED AT 10:15:24 ON 11 SEP 2007

L6 0 S QAKHKQRKRLKSSCKRHPLYVDFSDVGWNDWIVAPPGYHAFYCHGECPFPLADHLNSTNHA

FILE 'CAPLUS' ENTERED AT 10:15:42 ON 11 SEP 2007

L7 0 S L6

BIM

BLAST Basic Local Alignment Search Tool

Job Title: |cl|28751 (114 letters)

Show Conserved Domains

Putative conserved domains have been detected, click on the image below for detailed results.



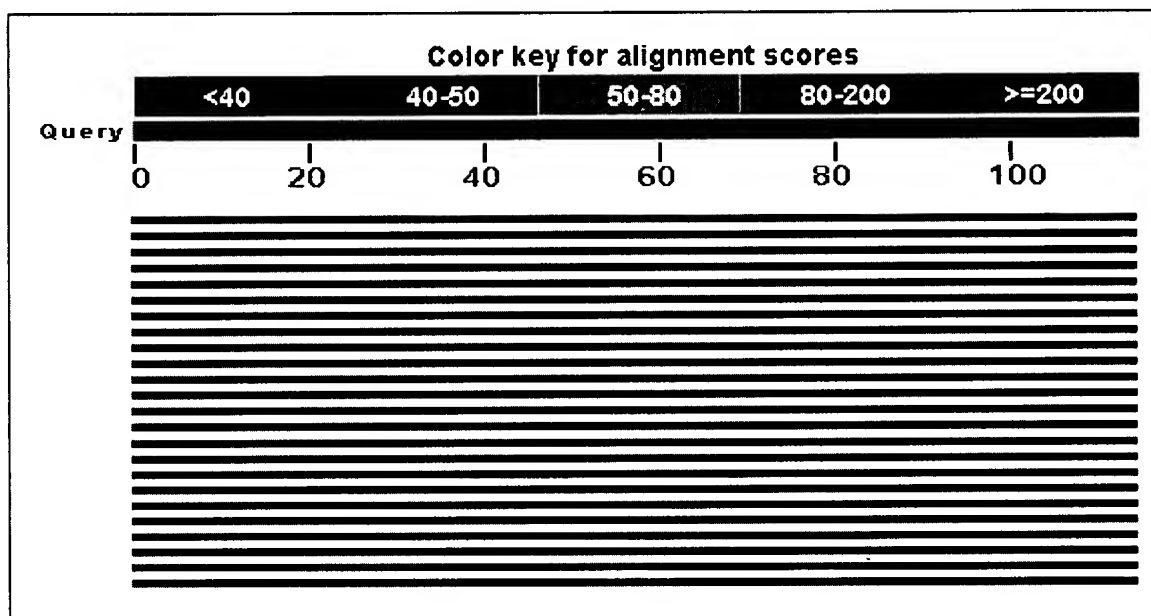
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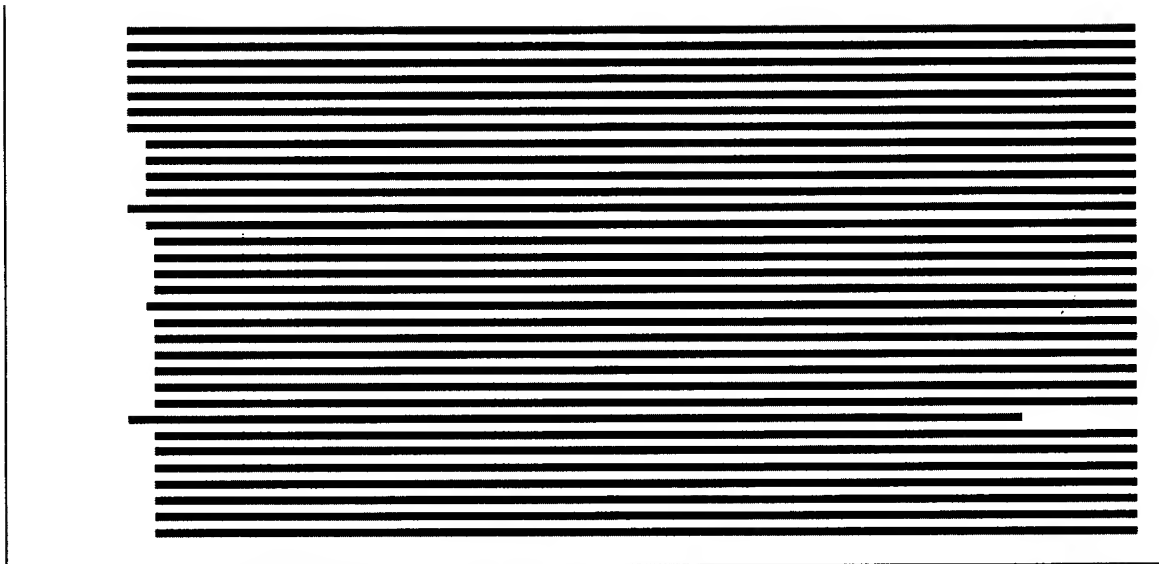
BLASTP 2.2.17 (Aug-26-2007)

Reference: Altschul, Stephen F., Thomas L. Madden, Alejandro A. Schäffer, Jinghui Zhang, Zheng Zhang, Webb Miller, and David J. Lipman (1997), "Gapped BLAST and PSI-BLAST: a new generation of protein database search programs", Nucleic Acids Res. 25:3389-3402. **Reference:** Schäffer, Alejandro A., L. Aravind, Thomas L. Madden, Sergei Shavirin, John L. Spouge, Yuri I. Wolf, Eugene V. Koonin, and Stephen F. Altschul (2001), "Improving the accuracy of PSI-BLAST protein database searches with composition-based statistics and other refinements", Nucleic Acids Res. 29:2994-3005. RID: EDPSCW3T014
Database: All non-redundant GenBank CDS translations+PDB+SwissProt+PIR+PRF excluding environmental samples from WGS projects 5,459,000 sequences; 1,890,632,936 total letters

Query= Length=114

Distribution of 100 Blast Hits on the Query Sequence





Distance tree of results [NEW](#) [Related Structures](#)

Sequences producing significant alignments:		Score (Bits)	E Value
ref XP_001514564.1 	PREDICTED: similar to Bone morphogenetic ...	254	1e-66
ref NP_058874.1 	bone morphogenetic protein 2 [Rattus norvegi...	249	2e-65
ref XP_001374502.1 	PREDICTED: similar to Bone morphogenetic ...	249	3e-65
gb EDL80282.1 	bone morphogenetic protein 2, isoform CRA_a [Ratt	249	3e-65
ref XP_534351.2 	PREDICTED: similar to Bone morphogenetic pro...	249	3e-65
sp P21274 BMP2 MOUSE	Bone morphogenetic protein 2 precursor (...)	249	3e-65
ref NP_001076119.1 	bone morphogenetic protein 2 [Oryctolagus...	249	4e-65
sp O19006 BMP2 DAMDA	Bone morphogenetic protein 2 precursor (...)	249	5e-65
ref XP_001115987.1 	PREDICTED: bone morphogenetic protein 2 [Mac	248	5e-65
ref XP_859850.1 	PREDICTED: similar to Bone morphogenetic pro...	248	5e-65
ref NP_031579.2 	bone morphogenetic protein 2 [Mus musculus] ...	248	5e-65
ref NP_001191.1 	bone morphogenetic protein 2 preproprotein [...]	248	5e-65
gb EAX10387.1 	bone morphogenetic protein 2, isoform CRA_b [Homo	248	6e-65
ref XP_001493945.1 	PREDICTED: similar to Bone morphogenetic ...	248	6e-65
ref XP_514508.2 	PREDICTED: bone morphogenetic protein 2 [Pan tr	248	6e-65
ref NP_001092611.1 	bone morphogenetic protein 2 [Bos taurus]...	248	6e-65
dbj BAE21167.1 	unnamed protein product [Mus musculus]	246	3e-64
gb EAX10386.1 	bone morphogenetic protein 2, isoform CRA_a [Homo	245	5e-64
gb ABS52636.1 	bone morphogenetic protein 2 [Bos taurus]	244	1e-63
ref NP_001095136.1 	bone morphogenetic protein 2 [Xenopus lae...	243	2e-63
sp P25703 BMP2A XENLA	Bone morphogenetic protein 2-A precursore...	242	5e-63
emb CAA45018.1 	bone morphogenetic protein 2 [Xenopus laevis]	242	6e-63
gb EDL80283.1 	bone morphogenetic protein 2, isoform CRA_b [Ratt	241	7e-63
gb AAH92021.1 	Unknown (protein for MGC:84859) [Xenopus laevis]	241	1e-62
ref NP_001015963.1 	bone morphogenetic protein 2 [Xenopus tro...	239	4e-62
gb AAR03824.2 	bone morphogenetic protein 2 precursor [Trachemys	238	6e-62
ref NP_989689.1 	bone morphogenetic protein 2 [Gallus gallus]...	238	1e-61
sp Q90751 BMP2 CHICK	Bone morphogenetic protein 2 precursor (...)	234	9e-61
pdb 1ES7 A	Chain A, Complex Between Bmp-2 And Two Bmp Recepto...	233	3e-60
pdb 3BMP A	Chain A, Human Bone Morphogenetic Protein-2 (Bmp-2...	232	4e-60
pdb 2H64 A	Chain A, Crystal Structure Of A Ternary Ligand-Rec...	228	7e-59
dbj BAD16743.1 	bone morphogenetic protein 2 [Paralichthys oliva	217	2e-55
gb ABQ23686.1 	bone morphogenetic protein 4 [Anas platyrhynchos]	216	2e-55
gb ABQ23685.1 	bone morphogenetic protein 4 [Anas platyrhynchos]	216	3e-55
gb AAS78628.1 	bone morphogenetic protein 2 [Sparus aurata]	216	4e-55
gb AAT12415.1 	bone morphogenetic protein 24B [Petromyzon marinu	215	5e-55
sp Q804S2 BMP2 TETNG	Bone morphogenetic protein 2 precursor (...)	215	5e-55
ref XP_864189.1 	PREDICTED: similar to Bone morphogenetic pro...	215	7e-55
ref XP_001495035.1 	PREDICTED: similar to Bone morphogenetic ...	215	7e-55
gb AAX43389.1 	bone morphogenetic protein 4 [synthetic construct	215	8e-55
sp Q06826 BMP4 RAT	Bone morphogenetic protein 4 precursor (BM...	215	8e-55
ref NP_990568.1 	bone morphogenetic protein 4 [Gallus gallus]...	214	8e-55
ref NP_001193.1 	bone morphogenetic protein 4 preproprotein [...]	214	9e-55

sp P12644 BMP4_HUMAN	Bone morphogenetic protein 4 precursor (...	<u>214</u>	9e-55
gb AAO25745.1	bone morphogenetic protein 4 [Rattus norvegicus]	<u>214</u>	9e-55
gb ABA86558.1	bone morphogenetic protein 4 [Didelphis albiventr	<u>214</u>	9e-55
ref XP_001362591.1	PREDICTED: similar to bone morphogenetic ...	<u>214</u>	1e-54
dbj BAA06410.1	bone morphogenetic protein 4 [Homo sapiens]	<u>214</u>	1e-54
gb AAG39266.1	bone morphogenetic protein 2 [Equus caballus]	<u>214</u>	1e-54
sp Q8MJV5 BMP4_SUNMU	Bone morphogenetic protein 4 precursor (...	<u>214</u>	1e-54
ref NP_031580.2	bone morphogenetic protein 4 [Mus musculus] ...	<u>214</u>	1e-54
gb EDL20711.1	bone morphogenetic protein 4, isoform CRA_b [Mus	<u>214</u>	1e-54
ref NP_036959.2	bone morphogenetic protein 4 [Rattus norvegi...	<u>214</u>	1e-54
ref XP_001084317.1	PREDICTED: bone morphogenetic protein 4 i...	<u>214</u>	1e-54
gb AAC37698.1	BMP-4 gene product	<u>214</u>	1e-54
ref XP_851628.1	PREDICTED: similar to Bone morphogenetic pro...	<u>214</u>	1e-54
ref XP_864167.1	PREDICTED: similar to Bone morphogenetic pro...	<u>214</u>	1e-54
gb ABK34489.1	bone morphogenetic protein 2b [Astyanax mexicanus	<u>214</u>	2e-54
emb CAG10381.1	unnamed protein product [Tetraodon nigroviridis]	<u>214</u>	2e-54
ref NP_001039342.1	bone morphogenetic protein 4 [Bos taurus]...	<u>214</u>	2e-54
ref NP_001094501.1	bone morphogenetic protein 4 [Sus scrofa]...	<u>214</u>	2e-54
gb ABR24116.1	bone morphogenetic protein 4 [Capra hircus]	<u>213</u>	2e-54
sp Q29607 BMP4_DAMDA	Bone morphogenetic protein 4 precursor (...	<u>213</u>	2e-54
gb ABK34490.1	bone morphogenetic protein 4 [Astyanax mexicanus]	<u>213</u>	2e-54
sp O46576 BMP4_RABIT	Bone morphogenetic protein 4 precursor (...	<u>213</u>	3e-54
ref NP_571435.1	bone morphogenetic protein 2b [Danio rerio] ...	<u>212</u>	4e-54
dbj BAE78823.1	bone morphogenic protein-4 [Meriones unguiculatu	<u>212</u>	5e-54
dbj BAA24406.1	bone morphogenetic protein [Danio rerio]	<u>212</u>	5e-54
gb AAW51451.1	bone morphogenetic protein 4 [Bos taurus]	<u>212</u>	5e-54
ref XP_509954.2	PREDICTED: bone morphogenetic protein 4 [Pan tr	<u>212</u>	5e-54
ref NP_001095263.1	bone morphogenetic protein 4 [Xenopus lae...	<u>212</u>	5e-54
dbj BAC02603.1	Bmp4 [Tropheus duboisi]	<u>211</u>	8e-54
dbj BAC02590.1	Bmp4 [Astatoreochromis alluaudi]	<u>211</u>	8e-54
dbj BAC02597.1	Bmp4 [Haplochromis nyererei] >dbj BAF56969.1 ...	<u>211</u>	8e-54
dbj BAC02598.1	Bmp4 [Julidochromis transcriptus]	<u>211</u>	8e-54
dbj BAC02602.1	Bmp4 [Steatocranus casuaris]	<u>211</u>	8e-54
dbj BAC02591.1	Bmp4 [Boulengerochromis microlepis] >dbj BAC0...	<u>211</u>	8e-54
dbj BAC02592.1	Bmp4 [Ctenochromis horei]	<u>211</u>	8e-54
dbj BAC02601.1	Bmp4 [Oreochromis niloticus]	<u>211</u>	9e-54
dbj BAC02593.1	Bmp4 [Cyprichromis leptosoma]	<u>211</u>	9e-54
dbj BAC02599.1	Bmp4 [Labidochromis caeruleus]	<u>211</u>	9e-54
ref XP_001084200.1	PREDICTED: bone morphogenetic protein 4 i...	<u>211</u>	1e-53
gb AAO33819.1	bone morphogenetic protein 2 [Takifugu rubripes]	<u>211</u>	1e-53
dbj BAC02595.1	Bmp4 [Astatotilapia burtoni]	<u>211</u>	1e-53
dbj BAA03555.1	BMP-4 [Mus musculus]	<u>211</u>	1e-53
gb AAC97488.1	bone morphogenetic protein 2/4 [Branchiostoma flo	<u>211</u>	1e-53
dbj BAC02605.1	Bmp4 [Tilapia rendalli]	<u>211</u>	1e-53
ref NP_571417.1	bone morphogenetic protein 4 [Danio rerio] >...	<u>211</u>	1e-53
gb AAF19841.1 AF206325_1	bone morphogenetic protein 2/4 [Branchi	<u>211</u>	1e-53
ref NP_001081501.1	bone morphogenetic protein-4 [Xenopus lae...	<u>210</u>	2e-53
gb AAC61694.1	bone morphogenetic protein 4 [Xenopus laevis]	<u>210</u>	2e-53
gb AAH60340.1	LOC397874 protein [Xenopus laevis]	<u>210</u>	2e-53
gb AAF82188.1 AF136233_1	bone morphogenetic protein 4 [Canis fam	<u>210</u>	2e-53
emb CAC44179.1	bone morphogenetic protein 4 [Xenopus tropica...	<u>209</u>	3e-53

gb AAC60286.1	BMP2-4 [Danio rerio]	209	3e-53
ref NP_001079353.1	bone morphogenetic protein 2 A [Xenopus l...	209	5e-53
gb ABK34492.1	bone morphogenetic protein 4 [Oryzias latipes]	209	5e-53
gb AAS98250.1	bone morphogenetic protein 4 [Eleutherodactylus c	208	7e-53
gb ABK34491.1	bone morphogenetic protein 2b [Oryzias latipes]	208	7e-53
gb ABG00199.1	BMP2/4 [Paracentrotus lividus]	208	7e-53

Alignments

>ref|XP_001514564.1| **G** PREDICTED: similar to Bone morphogenetic protein 2 precursor (BMP-2) (BMP-2A) [Ornithorhynchus anatinus]
Length=689

Score = 254 bits (648), Expect = 1e-66, Method: Composition-based stats.
Identities = 113/114 (99%), Positives = 113/114 (99%), Gaps = 0/114 (0%)

Query	1	QAKHKQRKRLKSSCKRHPLYVDFSDVGWNDWIVAPPGYHAFYCHGECPFPLADHLNSTNH	60
		QAKHKQRKRLKSSCKRHPLYVDFSDVGWNDWIVAPPGYHAFYCHGECPFPLADHLNSTNH	
Sbjct	576	QAKHKQRKRLKSSCKRHPLYVDFSDVGWNDWIVAPPGYHAFYCHGECPFPLADHLNSTNH	635
Query	61	AIVQTLVNSVNSKIPKACCVPTLSAISMLYLDENEKVVLKKNYQDMVVEGCTCR	114
		AIVQTLVNSVNSKIPKACCVPTLSAISMLYLDENEKVVLKKNYQDMVVEGC CR	
Sbjct	636	AIVQTLVNSVNSKIPKACCVPTLSAISMLYLDENEKVVLKKNYQDMVVEGCGCR	689

>ref|NP_058874.1| **UG** bone morphogenetic protein 2 [Rattus norvegicus]
sp|P49001|BMP2_RAT **G** Bone morphogenetic protein 2 precursor (BMP-2) (BMP-2A)
emb|CAA81088.1| **UG** bone morphogenetic protein 2 [Rattus norvegicus]
Length=393

Score = 249 bits (637), Expect = 2e-65, Method: Composition-based stats.
Identities = 113/114 (99%), Positives = 113/114 (99%), Gaps = 0/114 (0%)

Query	1	QAKHKQRKRLKSSCKRHPLYVDFSDVGWNDWIVAPPGYHAFYCHGECPFPLADHLNSTNH	60
		QAKHKQRKRLKSSCKRHPLYVDFSDVGWNDWIVAPPGYHAFYCHGECPFPLADHLNSTNH	
Sbjct	280	QAKHKQRKRLKSSCKRHPLYVDFSDVGWNDWIVAPPGYHAFYCHGECPFPLADHLNSTNH	339
Query	61	AIVQTLVNSVNSKIPKACCVPTLSAISMLYLDENEKVVLKKNYQDMVVEGCTCR	114
		AIVQTLVNSVNSKIPKACCVPTLSAISMLYLDENEKVVLKKNYQDMVVEGC CR	
Sbjct	340	AIVQTLVNSVNSKIPKACCVPTLSAISMLYLDENEKVVLKKNYQDMVVEGCGCR	393

>ref|XP_001374502.1| **G** PREDICTED: similar to Bone morphogenetic protein 2 precursor (BMP-2) (BMP-2A) [Monodelphis domestica]
Length=394

Score = 249 bits (636), Expect = 3e-65, Method: Composition-based stats.
Identities = 113/114 (99%), Positives = 113/114 (99%), Gaps = 0/114 (0%)

Query	1	QAKHKQRKRLKSSCKRHPLYVDFSDVGWNDWIVAPPGYHAFYCHGECPFPLADHLNSTNH	60
		QAKHKQRKRLKSSCKRHPLYVDFSDVGWNDWIVAPPGYHAFYCHGECPFPLADHLNSTNH	
Sbjct	281	QAKHKQRKRLKSSCKRHPLYVDFSDVGWNDWIVAPPGYHAFYCHGECPFPLADHLNSTNH	340
Query	61	AIVQTLVNSVNSKIPKACCVPTLSAISMLYLDENEKVVLKKNYQDMVVEGCTCR	114
		AIVQTLVNSVNSKIPKACCVPTLSAISMLYLDENEKVVLKKNYQDMVVEGC CR	
Sbjct	341	AIVQTLVNSVNSKIPKACCVPTLSAISMLYLDENEKVVLKKNYQDMVVEGCGCR	394

>gb|EDL80282.1| **G** bone morphogenetic protein 2, isoform CRA_a [Rattus norvegicus]
Length=394

Score = 249 bits (636), Expect = 3e-65, Method: Composition-based stats.
Identities = 113/114 (99%), Positives = 113/114 (99%), Gaps = 0/114 (0%)